

ANNEX C

DECONTAMINATION PROGRAMS

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SECTION 1: PRODUCTION AND FIELDDED ITEMS

Personnel

M258A1 Skin Decontamination Kit (SDK)

The M258A1 (see figure D-1) consists of a pocket-sized plastic case containing three sets of foil-packaged decontaminating wipes. The decontaminating sets consist of PACKET 1 containing an aqueous decon solution soaked gauze pad, and PACKET 2 containing a decon solution filled glass ampoule within a gauze pad. Personnel use the two wipes successively to remove and neutralize liquid chemical agents from their skin, clothing, personal equipment and weapons. The M258A1 is being replaced by the M291 decon kit.

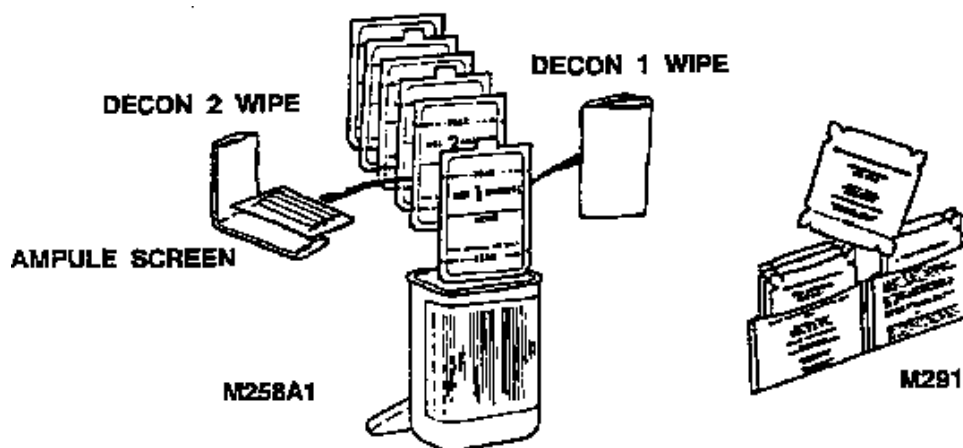


Figure D-1. Skin Decontamination Kits

M291 Skin Decontamination Kit

The M291 (see figure D-1) consists of a wallet-like flexible carrying pouch containing individually packaged hermetically sealed foil packets. Each packet contains a folded nonwoven fiber applicator pad with an attached strap handle on one side. The pad contains a reactive and sorptive resin polymer mixture. The kit enables warfighters to remove, neutralize, and destroy chemical and biological warfare agents on contaminated skin. The kit is carried in a pocket of the Battle Dress Overgarment (BDO).

M295 Equipment Decontamination Kit

The M295 consists of a pouch containing four individual wipedown mitts, each of which is within a soft, protective packet. The pouch assembly is designed to fit comfortably within the pocket of the BDO. Each individual wipedown mitt in the kit is comprised of adsorbent resin contained within a nonwoven polyester material and a polyethylene film backing. In use, resin from the mitt is allowed to flow freely through the non-woven polyester pad material. Decontamination is accomplished through sorption of contamination by both the non-woven

polyester pad and by the resin. The M295 enables the warfighter to perform basic decontamination to remove, neutralize, or destroy CB warfare agents and toxins on contaminated personal and load bearing equipment.

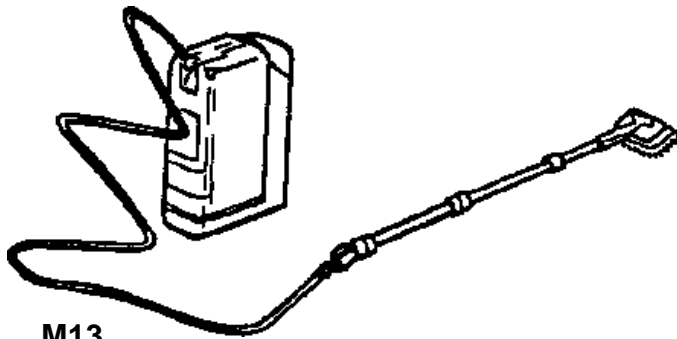
Combat Equipment, Vehicles, and Aircraft

ABC-M11 Portable Decontaminating Apparatus

The 1- $\frac{1}{2}$ quart capacity M11 is used to spray DS2 decontaminating solution onto critical areas (*i.e.*, frequently used parts) of vehicles and crew served weapons. The M11 consists of a steel cylinder, a spray head assembly, and a small nitrogen cylinder (about 3" long). The refillable M11 can produce a spray 6 to 8 feet long, and cover an area of about 135 square feet. The M11 is currently used on tanks and other systems where the larger M13 Decontaminating Apparatus, Portable (DAP) cannot be effectively stowed.



M13 Decontaminating Apparatus, Portable (DAP)



The man portable M13 consists of a vehicle mounting bracket, a pre-filled fluid container containing 14 liters of DS2 decontaminating solution, and a brush-tipped pumping handle connected to the fluid container by a hose. The fluid container and brush head are both disposable. The M13 can decontaminate 1,200 square feet per fluid container. The combination of spray pump and brush

allows personnel to decontaminate hard to reach surfaces, and remove thickened agent, mud, grease and other material.

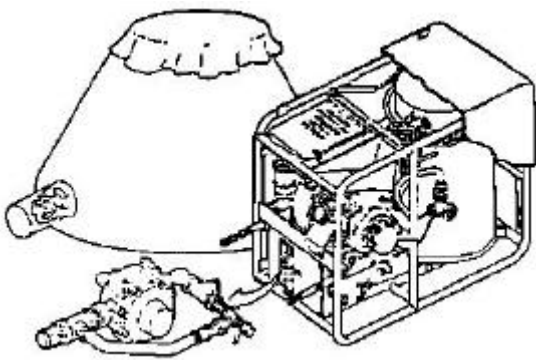
ABC-M12A1 Power Driven Decontamination Apparatus (PDDA); Skid-Mounted



The M12A1 consists of three main components: a pump unit, a 500 gallon tank unit, and a 600 gallon per hour liquid fuel water heater. The M12A1 is a flexible system that can be used for purposes such as de-icing, fire fighting with water or foam, water pumping/transport, and personnel showering in addition to equipment and area decontamination. The M12A1 can pump 50

solution per minute through both of its two hoses. The integral shower assembly provides 25 shower heads. The M12A1 is typically mounted on a 5 ton truck for tactical mobility, but can be dismounted to facilitate air transport. The Marine Corps is replacing the M12A1 PDDA with the M17 series Lightweight Decontamination Apparatus.

M17 Series Lightweight Decontamination Apparatus



The M17 series Lightweight Decontamination System is a portable, lightweight, compact engine driven pump and water heating system. The system is used during decontamination operations. The LDS is capable of drawing water from any source and delivering it at moderate pressure and controlled temperatures. The system has an accessory kit with hoses, spray wands, and personnel shower hardware. It also includes a collapsible water tank.

SECTION 2: RDTE ITEMS

Combat Equipment, Vehicles, and Aircraft

Sensitive Equipment Decontamination System

Rationale:

Army (Requirement)
Navy, Air Force, Marine Corps (Interest)

Key Requirements:

- Non-aqueous based decontamination systems for sensitive equipment
- Capable of being used in both mobile and fixed-sites

Description:

Provide a first ever capability to decontaminate chemical and biological warfare agents and toxins from sensitive electronic, avionics, and electro-optic, equipment. It's use must be compatible with and not degrade sensitive materials or equipment. It must be operator safe and offer protection from off-gassing and direct liquid exposure during decontamination.

Sorbent Decontamination System

Rationale:

Army, Marine Corps (Requirement)
Navy, Air Force (Interest)

Key Requirements:

- Effectively decontaminates all CB warfare agents from contaminated surfaces
- Easy-to use and possess no hazard to users
- Non-damaging and non-corrosive to military equipment
- Environmentally safe to store

Description:

The catalytic sorbent decontamination system provides a simple, rapid, and efficient system to decontaminate small and individual issue items of equipment. It is effective in all environments, is less corrosive, and presents a lowered logistics burden through improved shelf life and reduced special handling and storage needs. The system uses a catalytic component that reacts with the chemical agents being sorbed; this eliminates the potential hazard created by the off-gassing of agents from used sorbents.

M21/M22 Modular Decontamination System (MDS)

Rationale:

Army (Requirement)

Navy, Air Force Marine Corps (Interest - No Imminent Requirement)

Key Requirements:

- Provide high pressure water for the primary wash process
- Mechanically dispense and scrub decontaminant
- Fit within the payload limits of a 3/4 ton trailer and a 1-1/2 ton trailer
- Use existing equipment to supplement the deliberate decontamination process
- Provide adapters to draw water from fire hydrants

Description:



The MDS will provide the soldier an improved capability to perform detailed equipment decontamination on the battle field. The system will replace current methods of decontamination application (*i.e.*, mops and brooms or with the portable M13 Decontamination Apparatus) which are both time consuming and labor intensive. The MDS reduces water usage, equipment processing time, labor

intensiveness and improves effectiveness. The MDS consists of a M21 decontaminant Pumper/Scrubber module, and M22 High Pressure/Hot Water module. The M22 delivers DS2 or liquid field expedient decontaminants and is capable of drawing the decontaminant directly from a container on the ground while mounted on a trailer. The M22 provides hot water up to 3000 psi at a rate of 5 gpm with the capability of high volume cold water and detergent injector. It will also be capable of drawing water from natural and urban water sources and delivering it at variable adjustable pressures, temperatures and flow rates. Each module (M21 or M22) may be transported or operated from a 3/4-ton trailer towed by a M1037 High Mobility Multipurpose Wheeled Vehicle.

M17 Diesel Lightweight Decontamination System (LDS)

Rationale:

Marine Corps (Service-Unique Requirement)

Air Force, Navy (Interest - No Imminent Requirement)

Key Requirements:

- Be capable of operation using Military Standard (MIL STD) fuels
- Have no component which cannot be moved by a four man crew
- Be capable of decontaminating both sides of a vehicle or aircraft simultaneously
- Generate no new manpower requirements

Description:

The Diesel LDS is a portable, lightweight, compact, engine-driven pump and multifuel-fired water heating system. The system will be capable of performing the same hasty and deliberate decontamination procedures as required of the M17 series LDS.